

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002459**Date Inspected:** 18-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng/ Chen Chci Ming**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG/Tower**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Roscoe Dixon was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG),and Tower.

New Tower Shop Bay # 1:

The QA Inspector observed welding operator Yun Chuanjin, ID 003060 performing the Submerged Arc Welding Process (SAW) utilizing WPS) WPS-B-T-2221-B-U3L-S-1 in the 1G (Groove) position to weld fill and cap passes for a complete joint penetration (CJP) weld joint for tower skin plate P661 (S) + P124 (S) weld joint designated as SSD-SA16 E/G 10 B.

The QA Inspector visually verified a single electrode was being utilized for the fill weld passes, and the filler metal was JW-3 with a diameter of 4.8 millimeters.

The Flux was verified as JF-B, the base material listed on the (WPS) as grade 345. The QA Inspector observed and noted that during the welding operation the ZPMC welding operators would before welding over previous deposited weld pass utilized the proper cleaning method to remove slag prior to resuming the welding operation.

The QA Inspector observed that during the shift ZPMC CWI, Xu Le Feng and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and weld interpass temperatures at this station.

Both weld joints listed above were completed during the QA Inspector's shift the welding generally appeared to

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conform with the above listed WPS and to the contract specifications.

New Tower Shop Bay # 2:

The QA Inspector also observed ZPMC qualified Welder Xie Zhang Chen ID 041271 utilizing the Shielded Metal Arc Welding (SMAW) Process with ZPMC Weld Procedure Specification (WPS) WPS-345-SMAW Repair to complete a weld repair to tower skin plate piece marks P609 (E) / P91 (E) weld joint ESD1 SA216 A/K -15 A.

The QA Inspector verified the material was identified by ZPMC with paint stick markings which appeared to be Grade 345 t2 + 345 t2 Non SPCM plate 75mm thick material, and the electrode filler metal was verified as TL-508.

During the welding the QA Inspector randomly verified the welding machine amperes at 190 utilizing a Fluke Meter.

The welding was in progress and appeared to conform with the welding procedure specifications (WPS) and the contract requirements.

OBG Assembly Shop:

The QA Inspector randomly observed ZPMC Welding Operator Wang Lan ying ID 045265, utilizing the Submerged Arc Welding (SAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-B-L2C-S-1 to complete the filler passes for the complete joint penetration (CJP) weld joint SEG017-001 with the part numbers designated as SP11A, and SP19A.

During the welding the QA Inspector randomly verified the welding machine amperes at 540 amperes and 30 volts utilizing a Fluke Meter.

The QA Inspector visually verified a single electrode was being utilized for the filler passes. The filler metal being used was JW-3 with a diameter of 4.8 millimeters.

The QA Inspector observed that during the shift ZPMC CWI, Chen Chci Ming and various CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures during the shift.

The welding was in progress and appeared to conform with the welding procedure specifications (WPS) and the contract requirements.

Bay 3:

The QA Inspector observed ZPMC qualified Welder Wang Zhang Hua ID 053753 utilizing the Shielded Metal Arc Welding (SMAW) Process with ZPMC Weld Procedure Specification (WPS)-B-P-2112-FCM to tack weld various WT stiffener to plate material for side plates. The markings on the plate materials identified as PL1011A/SP568A Seismic Performance Critical Member (SPCM) plate material.

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The electrode filler metal used during the welding was verified as THJ506FE-1, and the weld joint appeared to be SP608-001-033.

During the welding the QA Inspector verified the welding machine amperes utilizing a Fluke meter which registered 180 amperes.

The QA Inspector observed that during the shift ZPMC CWI, Wu Ming Kai and various ZPMC CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay # 3. The work being performed was in progress generally appeared to conform to contract specifications.

Bay7

The QA Inspector randomly observed ZPMC Welding Operator Huang Xin Lan ID 044780, and Wang Ming ID 048296 utilizing the Submerged Arc Welding (SAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-BL2-C-S-1 to complete filler and cap weld passes to weld 12 millimeter thick floor beam diaphragm plate material.

Mr. Huang Xin Lan was welding in the process of welding floor beam weld joint FB10-003-023 and Mr. Wang Ming was in the process welding FB016-010-021.

The QA Inspector visually verified a single electrode was being utilized for the filler passes and the filler metal being used was JW-3 with a diameter of 4.8 millimeters.

The QA Inspector observed that during the shift ZPMC CWI, Huang Wen Pang and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and weld interpass temperatures at this welding station.

The work being performed was in progress generally appeared to conform to contract specifications. For more detail see photographs shown below:



Summary of Conversations:

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As noted within the report shown above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Dixon,Roscoe
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Quality Assurance Inspector

Reviewed By:	Hager,Craig
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QA Reviewer
